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A Check List of Fishes from Sandakan, British North Borneo

By ALBERT W. HERRE
Stanford University, California

The following list is based upon the collections made by Alvin Seale in 1908, and upon the fishes obtained by me at various times during the past fourteen years at the Sandakan market and in small fresh water streams near Sandakan. In addition it includes all specifically mentioned in the literature as having been secured at Sandakan. Unfortunately I have never been able to collect the tide pool and reef fishes of Sandakan Bay and vicinity, otherwise this list would have been much more extensive. All fishes collected or determined by me personally are marked with a *.

The marine fish fauna of Sandakan and vicinity is a rich one, and the present list comprises but a small part of the total. Near Sandakan are extensive fishing banks where large quantities of fish are caught and dried. A conspicuous feature of the Sandakan market is the presence of very large specimens of fishes, both fresh and dried, which are entirely too big to be placed in any available container. Sharks, rays, sea-bass, snappers, sciaenidae, and thread-fins of a meter or more in length occur; some of them, as the sciaenids, are either new or very imperfectly known. Drepanidae and leaf-fishes or Platacidae of very large size are also to be seen.

Family SCYLLIORHINIDAE

1.—* Chiloscyllium griseum Müller & Henle
2.—* Chiloscyllium plagiosum Müll. & Henle

Family CARCHARINIDAE

3.—* Scoliodon intermedius Garman
4.—* Carcharinus limbatus (Müll. & Henle)
5.—* Carcharinus menisorrah (Müll. & Henle)
6.— Carcharinus sealei Pietschmann

Family SPHYRNIDAE

7.—* Sphyrna blochi Cuvier

Family PRISTIDAE

8.—* Pristis zysron Bleeker

Family RHINOBATIDAE

9.—* Rhynchobatus djiddensis Forskål
10.—* Rhinobatus armatus Gray

Family NARCACIONTIDAE

11.—* Narcine timlei Bl. & Schn.

Family DASYBATIDAE

12.—* Dasybatus gerrardi Gray
13.—* Dasybatus kuhlii Müller & Henle
14.—* Dasybatus sephen Forskål
15.—* Dasybatus uarnak Forskål
16.—* Dasybatus zugei Müller & Henle
17.—* Taeniura lymma Forskål

Family MYLIOBATIDAE

18.—* Aetobatus narinari Euphrasen

Family MOBULIDAE

19.—* Mobula eregoodoo- tenkee Cuvier

Family ELOPIDAE

20.—* Megalops cyprinoides (Broussonet)

Family CHANIDAE

21.—* Chanos chanos (Forskål)

Family CHIROCENTRIDAE

22.—* Chirocentrus dorab (Forskål)

Family DUSSUMIERIDAE

23.—* Dussumieria hassellti Bleeker

Family CLUPEIDAE

24.—* Pellona brachysoma Bleeker
25.—* Pellona kampeni Weber & Beaufort
26.— Pellona xanthoptera Bleeker
27.—* Sardinella perforata (Cantor)

Family DOROSOMIDAE

28.— Anodontostoma chacunda (Buch. Ham.)

Family ENGRAULIDAE

29.—* Scutengraulis tri (Bleeker)
30.—* Setipinna melanochir (Bleeker)

Family MURAENOSOCIDAE

31.—* Muraensox cinereus (Forskål)
32.—* Muraenesox talabon (Cantor)

Family OPHICHTHYIDAE

33.—* Pisoodonophis hoeveni Bleeker. Only the type has been known previously; a very rare find.

Family MURAENIDAE

* Evenchelys macrurus (Bleeker)

Family CYPRINIDAE

34.—* Nematabramis steindachneri Popta
35.—* Rasbora trilineata Steindachner
36.—* Barbodes binotatus (Cuv. & Val.)
37.— Barbodes orthoides (Cuv. & Val.)
38.— Barbodes sealei Herre, new name; replaces *Barbus elongatus* Seale, name preoccupied by *Barbodes elongatus* Rüppell.
39.— Cyclocheilichthys apogon (Cuv. & Val.)

Family ARIIDAE

40.— Arius argyropleuron Cuv. & Val.
41.—* Arius leptonotacanthus Bleeker
42.—* Arius maculatus (Thunberg)
43.—* Arius sagor Buch. Ham.
44.—* Arius utik Bleeker
45.—* Arius venosus (Cuv. & Val.)

Family PLOTOSIDAE

46.—* Paraplotosus albilabrus (Cuv. & Val.)
47.—* Plotosus anguillaris (Bloch)
48.—* Plotosus canius Buch. Ham.

Family CLARIIDAE

49.—* Clarias teysmanni Bleeker

Family SYNODONTIDAE

50.—* Saurida gracilis (Quoy & Gaim.)
51.— Saurida tumbil (Bleeker)
52.—* Trachinocephalus myops (Bl. & Schn.)

Family BELONIDAE

53.—* Busuanga philippina Herre
54.—* Tylosurus crocodilus (Le Sueur)
55.—* Tylosurus giganteus (Schlegel)
56.—* Tylosurus strongylurus Van Hasselt

Family HEMIRAMPHIDAE

57.—* Arrhamphus brevis (Seale)
58.—* Hemiramphus dussumieri Cuv. & Val.
59.—* Hemiramphus gaimardi Cuv. & Val.
60.—* Hemiramphus georgii Cuv. & Val.
61.—* Hemiramphus marginatus (Forskål)
62.—* Hemiramphus quoyi Cuv. & Val.
63.— Zenarchopterus buffonis (Cuv. & Val.)
64.—* Zenarchopterus dispar (Cuv. & Val).
65.— Zenarchopterus dux Seale

Family HOLOCENTRIDAE

66.—* Holocentrus ruber (Forskål)
67.—* Myripristis murdjan (Forskål)

Family SYNGNATHIDAE

68.—* Snygnathoides biaculeatus (Bloch)
69.— Hippocampus kuda Bleeker
70.—* Hippocampus histrix Kaup

Fimaly OPHICEPHALIDAE

71.—* Ophicephalus melanosoma Bleeker

Family ATHERINIDAE

72.—* Atherina forskali Rüppell
73.—* Atherina regina Seale
74.—* Atherina temmincki Bleeker
75.—* Atherina valenciennesi Bleeker

Family MUGILIDAE

76.—* Mugil dussumieri Cuv. & Val.
77.—* Mugil longimanus Günther
78.— Mugil tade Forskål
79.— Liza caeruleo-maculatus (Lac.)
80.—* Liza seheli (Forskål)
81.—* Liza vaigiensis (Quoy & Gaim.)

Fimaly SPHYRAENIDAE

82.— Sphyraena forsteri Cuv. & Val.
83.—* Sphyraena jello Cuv. & Val.

Family POLYNEMIDAE

84.—* Eleutheronema tetradactylum (Shaw)
85.—* Polydactylus indicus Shaw
86.— Polydactylus microstoma Bleeker
87.—* Polydactylus plebeius (Broussonet)

Family SCOMBRIDAE

88.—* Rastrelliger brachysoma (Bleeker)

Family TRICHIURIDAE

89.— Trichiurus haumela. (Forskål)
90.—* Trichiurus savala Cuvier

Family STROMATEIDAE

91.— Stromateus cinereus (Bloch)

Family CARANGIDAE

92.— Atule kalla (Cuv. & Val.)
93.—* Caranx forsteri Cuv. & Val.
94.—* Caranx ignobilis (Forskål)
95.—* Caranx praeustus Bennett
96.— Caranx sexfasciatus (Quoy & Gaim.)
97.— Citula armatus (Forskål)
98.—* Gnathanodon speciosus (Forskål)
99.—* Scomberoides lysan (Forskål)
100.—* Scomberoides toloo-parah (Rüppell)

Family RACHYCENTRIDAE

101.—* Rachycentron canadus (L.)

Family LACTARIIDAE

102.—* Lactarius lactarius (Bl. & Schn.)

Family LEIOGNATHIDAE

103.— Gazza minuta (Bloch)
104.—* Leiognathus blochi Cuv. & Val.
105.— Leiognathus equulus (Forskål)
106.—* Leiognathus ruconius (Buch. Ham.)
107.—* Leiognathus splendens (Cuvier)

Family GERRIDAE

108.—* Gerres abbreviatus Bleeker
109.— Gerres kapas Bleeker
110.—* Gerres setifer (Buch. Ham.)
111.—* Gerres oyena (Forskål)
112.—* Gerres punctatus Cuv. & Val.

Family APOGONIDAE

113.—Apogon ceramensis Bleeker
114.—* Apogon hyalosoma Bleeker
115.—* Apogon kiensis Jordan & Snyder
116.—* Apogon lateralis Valenciennes
117.—* Apogon margaritophora Bleeker
118.—* Apogon multitaeniatus Bleeker
119.—* Apogon quadrifasciatus Cuv. & Val.
120.—* Apogonichthys auritus (Cuv. & Val.)
121.—* Pseudamia polystigma (Bleeker)

Family AMBASSIDAE

122.—* Ambassis commersonii Cuv. & Val.
123.—* Ambassis kopsi Bleeker
124.—* Priopis gymnocephalus (Lac.)

Family SERRANIDAE

125.—* Lates calcarifer (Bloch)
126.—* Psammoperca waigiensis (Cuv. & Val.)
127.—* Centrogenys vaigiensis (Quoy & Gaim.)
128.—* Epinephelus caeruleo-punctatus (Bloch)
129.— Epinephelus coromandelicus (Day)
130.—* Epinephelus fasciatus (Forskål)
131.—* Epinephelus malabaricus (Bl. & Schn.)
132.— Epinephelus sexfasciatus (Cuv. & Val.)
133.—* Cephalopholis boenack (Bloch)
134.—* Cephalopholis cyanostigma (Cuv. & Val.)

Family LOBOTIDAE

135.—* Lobotes surinamensis Bloch

Family LUTIANIDAE

136.— Lutinanus argentimaculatus (Forskål)
137.—* Lutianus coeruleo-lineatus (Rüppell)
138.—* Lutianus decussatus (Cuv. & Val.)
139.—* Lutianus erythropterus Bloch
140.—* Lutianus fulviflamma (Forskål)
141.—* Lutianus lemniscatus Cuv. & Val.
142.—* Lutianus lutjanus Bloch
143.— Lutianus malabaricus (Bl. & Schn.)
144.—* Lutianus nematophorus Bleeker
145.—* Lutianus rivulatus (Cuv. & Val.)
146.—* Lutianus vitta (Quoy & Gaim.)

Family POMADASIDAE

147.—* Plectorhynchus celebicus Bleeker
148.—* Plectorhynchus chrysotaenia Bleeker
149.—* Plectorhynchus nigrus (Cuv. & Val.)
150.—* Plectorhynchus pictus (Thunberg)
151.—* Pomadasys hasta (Bloch)
152.—* Pomadasys therapon (Bleeker)
153.—* Scolopsis bimaculatus (Rüppell)
154.—* Scolopsis leucotaenia (Bleeker)
155.—* Scolopsis personatus (Cuv. & Val.)
156.—* Scolopsis vosmeri (Bloch)
157.—* Scolopsis xenochrous Günther

Family THERAPONIDAE

158.— Therapon jarbua (Forskål)
159.—* Therapon puta Cuv. & Val.
160.—* Therapon theraps Cuv. & Val.
161.—* Pelates quadrilineatus (Bloch)

Family LETHRINIDAE

162.—* Lethrinus amboinensis Bleeker
163.—* Lethrinus insulindicus Bleeker
164.—* Lethrinus opercularis Cuv. & Val.
165.—* Lethrinus miniatus Bl. & Schn.

Family SPARIDAE

166.— Sparus berda (Forskål)

Family MULLIDAE

167.—* Upeneoides luzonius (Jordan & Seale)
168.— Upeneoides sulphureus (Cuv. & Val.)
169.—* Upeneoides sundaicus Bleeker
170.—* Upeneoides tragula (Richardson)
171.—* Upeneoides vittatus (Forskål)

Family SCIAENIDAE

172.—* Johnius belengeri (Cuv. & Val.)
173.—* Johnius borneensis (Bleeker)
174.— Johnius vogleri Bleeker
175.— Otolithes dolorosus Seale
176.— Otolithes maculatus (Kuhl & Van Has.)
177.—* Otolithes orientalis Seale
178.— Pseudosciaena anea (Bloch)
179.—* Pseudosciaena goldmanni Bleeker
180.—* Pseudosciaena diacanthus (Lac.)
181.—* Sciaenoides microdon (Bleeker)
182.— Umbrina russelli Cuv. & Val.

Family SILLAGINIDAE

183.—* Sillago macrolepis Bleeker
184.—* Sillago sihama (Forskål)

Family MONODACTYLIDAE

185.—* Monodactylus argenteus (L.)

Family PLATACIDAE

186.—* Platax orbicularis (Forskål)

Family EPHIPPIDAE

187.—* Ephippus orbis (Bloch)

Family DREPANIDAE

188.—* Drepane punctata (L.)

Family TOXOTIDAE

189.—* Toxotes jaculator (Pallas)

Family SCATOPHAGIDAE

190.—* Scatophagus argus (Boddaert)

Family CHAETODONTIDAE

191.—* Chaetodon trifasciatus M. Park
192.—* Chelmon rostratus (L.)
193.—* Parachaetodon ocellatus Cuv. & Val.
194.—* Holacanthus mesoleucus Bleeker

Family ACANTHURIDAE

195.—* Acanthurus leucocheilus Herre
196.—* Acanthurus matoides Cuv. & Val.
197.—* Naso marginatus (Cuv. & Val.)

Family SIGANIDAE

198.—* Teuthis concatenata (Cuv. & Val.)
199.—* Teuthis fuscescens (Houttuyn)
200.—* Teuthis hexagonata (Bleeker)
201.—* Teuthis javus L.
202.—* Teuthis lineata (Cuv. & Val.)
203.—* Teuthis oramin (Bl. & Schn.)
204.— Teuthis vermiculata (Cuv. & Val.)
205.—* Teuthis virgata (Cuv. & Val.)

Family SCORPAENIDAE

206.—* Scorpaenopsis novae-guineae Bleeker
207.—* Sebastapistes tristis (Klunzinger)
208.—* Paracentropogon longispinis (Cuv. & Val.)
209.— Polycaulus elongatus (Cuv. & Val.)
210.—* Vespicula trachinoides (Cuv. & Val.)

Family PLATYCEPHALIDAE

211.—* Cocius crocodilus (Tilesius)
212.—* Grammoplites neglectus (Troschel)
213.— Grammoplites scaber (L.)
214.—* Platycephalus indicus (L.)
215.—* Thysanophrys bobossok (Bleeker)
216.—* Thysanophrys nematophthalmus (Günther)

Family TRIGLIDAE

217.—* Lepidotrigla alata (Houttuyn)

Family POMACENTRIDAE

218.— Abudefduf bengalensis (Bloch)
219.—* Abudefduf saxatilis (L.)
220.—* Pomacentrus fasciatus Cuv. & Val.

Family LABRIDAE

221.—* Cheilinus chlorurus (Bloch)
222.—* Cheilinus fasciatus (Bloch)
223.—* Choerodon anchorage (Bloch)
224.—* Choerodon oligacanthus (Bleeker)
225.—* Choerodon schoenleini (Cuv. & Val.)
226.—* Halichoeres bicolor (Bl. & Schn.)
227.—* Hemigymnus melapterus (Bloch)
228.—* Thalassoma lunare (L.)

Family SCARIDAE

229.—* Scarichthys auritus (Cuv. & Val.)
230.—* Scarichthys coeruleo-punctatus (Rüppell)
231.—* Scarus dubius Bennett

Family ELEOTRIDAE

232.—* Butis butis (Buch. Ham.)
233.—* Butis gymnopomus Bleeker

Family GOBIIDAE

234.—* Amblygobius linkii Herre
235.— Ctenogobius caninus (Cuv. & Val.)
236.—* Ctenogobius criniger (Cuv. & Val.)
237.—* Ctenogobius viridi-punctatus (Cuv. & Val.)
238.—* Glossogobius biocellatus (Cuv. & Val.)
239.—* Gnatholepis calliurus Jordan & Seale
240.—* Gnatholepis puntangoides (Bleeker)
241.— Oxyurichthys microlepis Bleeker
242.—* Oxyurichthys viridis Herre

Family CALLIONYMIDAE

243.—* Callionymus sagittata Pallas

Family OPISTHOGNATHIDAE

244.—* Gnathypops dendritica Jordan and Richardson

Family CONGROGADIDAE

245.—* Congrogadus subducens (Richardson)

Family BATHACHOIDIDAE

246.—* Coryzichthys diemensis (Le Sueur)

Family TRIACANTHIDAE

247.— Triacanthus blochi Bleeker
248.—* Triacanthus brevirostris Schlegel

Family BALISTIDAE

249.—* Balistapus undulatus (M. Park)
250.—* Balistes viridescens Bl. & Schn.

Family MONACANTHIDAE

251.—* Monacanthus chinensis (Bloch)
252.—* Stephanolepis tomentosus (L.)

Family OSTRACIIDAE

253.—* Ostracion cornutus L.
254.—* Ostracion rhinorhynchus Bleeker

Family TETRAODONTIDAE

255.—* Chelonodon patoca (Buch. Ham.)
256.—* Spheroides lunaris (Bl. & Schn.)
257.—* Spheroides oblongus (Bloch)
258.—* Tetraodon aerostaticus (Jenyns)
259.—* Tetraodon fluviatilis (Buch. Ham.)
260.—* Tetraodon immaculatus Bl. Schn.
261.—*Tetraodon reticularis Bl. & Schn.

Family PSETTODIDAE

262.—* Psettodes erumei (Bl. & Schn.)

Family BOTHIDAE

263.—* Pseudorhombus arsius (Buch. Ham.)
264.— Pseudorhombus javanicus (Bleeker)

Family SOLEIDAE

265.—* Cynoglossus bilineatus (Lac.)
266.— Cynoglossus borneensis (Bleeker)
267.— Cynoglossus kapuasensis Fowler
268.—* Cynoglossus lingua Buch. Ham.
269.— Cynoglossus macrolepidotus (Bleeker)
270.—* Cynoglossus puncticeps (Richardson)
271.—* Microbuglossus humilis (Cantor)
272.—* Solea heterorhina Bleeker
273.—* Synaptura commersoniana (Lac.)

Family ANTENNARIIDAE

274.—* Antennarius caudimaculatus Rüppell.

A Check List of Fishes from Dumaguete, Oriental Negros, P. I., and Its Immediate Vicinity

By Albert W. Herre
Stanford University, California.

Dumaguete lies on the southeast coast of the large island of Negros and is peculiarly notable for the great number of rarities its fish fauna has thus far yielded. Although this list contains more than 500 species that is probably not more than half of the fishes occurring in the waters about Dumaguete. To my friend and colleague, Dr. James W. Chapman, professor of biology in Silliman Institute of Dumaguete, I owe many rare or unique specimens.

Names prefixed by a (*) have been collected only by the late Bashford Dean, who spent several months during 1900-01 collecting near Dumaguete. All the rest have been collected and determined by me personally.

Family SCYLLIORHINIDAE

1.—Chiloscyllium punctatum Müller & Henle
2.—Atelomycterus marmoratus (Bennett)

Family ORECTOLOBIDAE

3.—Stegastoma varium (Seba)

Family CARCHARHINIDAE

4.—Scoliodon dumerili Bleeker
5.—Scoliodon palasorrah Cuvier
6.—Scoliodon walbeehmi Bleeker
7.—Carcharinus dussumieri Müll. & Henle
8.—Hemitriakis leucoperiptera Herre

Family SPHYRNIDAE

9.—Sphyrna zygaena (L.)

Family SQUALIDAE

10.—Squalus fernandinus Molina

Family DASYATIDAE

11.—Dasybatus kuhlii (Müll. & Henle)

Family MYLIOBATIDAE

12.—Aetobatus narinari (Euphrasen)

Family ELOPIDAE

13.—Elops hawaiiensis Regan
14.—Megalops cyprinoides (Broussonet)

Family CHANIDAE

15.—Chanos chanos (Forskål)

Family CHIROCENTRIDAE

16.—Chirocentrus dorab Forskål)

Family DUSSUMERIIDAE

17.—Spratelloides delicatulus (Bennett)
18.—Spratelloides gracilis (Schlegel)

Family CLUPEIDAE

19.—Harengula moluccensis Bleeker
20.—Harengula punctata (Rüppell)
21.—Harengula schrammi (Bleeker)
22.—* Sardinella clupeoides Bleeker
23.—* Sardinella gibbosa Bleeker
24.—Sardinella sirm (Rüppell)

Family ANADONTOSTOMIDAE

25.—* Anodontostoma chacunda (Buch. Ham.)

Family ENGRAULIDAE

26.—Stolephorus heterolobus (Rüppell)
27.—Stolephorus indicus (Van Hasselt)
28.—* Stolephorus commersoni Lacépède

Family ANGUILLIDAE

29.—Anguilla celebesensis Kaup

Family LEPTOCEPHALIDAE

30.—Ariosoma obud Herre
31.—Leptocephalus cinereus (Rüppell)

Family MURAENESOCIDAE

32.—Muraenesox cinereus (Forskål)

Family HETEROCONGRIDAE

33.—Heteroconger polyzona Bleeker
34.—Taenioconger chapmani Herre

Family MYRIDAE

35.—Muraenichthys gymnopterus Bleeker
36.—Muraenichthys macropterus Bleeker
37.—Muraenichthys macrostomus Bleeker
38.—Muraenichthys schultzei (Bleeker)
39.—Muraenichthys thompsoni Jordan & Richardson

Family OPHICHTHYIDAE

40.—Caecula kaupi Bleeker
41.—Callechelys myersi Herre
42.—Chlevastes colubrinus (Boddaert)
43.—Ophichthus apicalis (Bennett)
44.—Pisoodonophis boro (Buch. Ham.)
45.—Pisoodonophis cancrivorus (Richardson)

Family MORINGUIDAE

46.—Aphthalmichthys abbreviatus Bleeker
47.—Aphthalmichthys javanicus Kaup
48.—* Aphthalmichthys lumbricoideus (Richardson)
49.—Moringua macrochir Bleeker
50.—Moringua microchir Bleeker
51.—Moringua robusta Herre

Family MURAENIDAE

52.—Anarchias reticulatus Herre
53.—Echidna delicatula (Kaup)
54.—Echidna nebulosa (Ahl)
55.—Echidna zebra (Shaw)
56.—Gymnothorax boschi Bleeker
57.—Gymnothorax flavimarginatus (Rüppell)
58.—* Gymnothorax pictus (Ahl)
59.—Gymnothorax pseudothyrsoideus Bleeker
60.—Gymnothorax richardsoni Bleeker
61.—Gymnothorax tile (Buch. Ham.)
62.—Gymnothorax undulatus (Lacép.)
63.—*Uropterygius concolor (Rüppell)

Family PLOTOSIDAE

64.—Plotosus anguillaris (Bloch)

Family CLARIIDAE

65.—Clarias batrachus (L.)

Family SYNODONTIDAE

66.—* Saurida argyrophanes (Rich.)
67.—Saurida gracilis (Quoy & Gaim.)
68.—Synodus japonicus (Houttuyn)
69.—Trachinocephalus myops (Bl. & Schn.)

Family BELONIDAE

70.—Tylosurus crocodilus Le Sueur
71.—Tylosurus giganteus (Schlegel)
72.—Tylosurus incisus (Cuv. & Val.)
73.—Tylosurus strongylurus Van Hasselt

Family HEMIRAMPHIDAE

74.—Hemiramphus far (Forskål)
75.—Hemiramphus marginatus (Forskål)

Family EXOCOETIDAE

76.—Cypselurus atrisignis Jenkins
77.—Cypselurus nigripennis (Cuv. & Val.)
78.—Cypselurus oligolepis Bleeker
79.—Cypselurus opisthopus Bleeker
80.—Cypselurus poecilopterus (Cuv. & Val.)

Family HOLOCENTRIDAE

81.—Holocentrus cornutus Bleeker
82.—Holocentrus ruber (Foskål)
83.—Myripristis murdjan (Forskål)

Family SOLENOSTOMIDAE

84.—Solenostomus phantasticus Herre

Family SYNGNATHIDAE

85.—Corythoichthys fasciatus (Gray)
86.—Doryrhamphus negrosensis Herre
87.—Ichthyocampus kampeni M. Weber
88.—Micrognathus magdamoi Herre
89.—Syngnathoides biaculeatus (Bloch)
90.—Syngnathus spicifer Rüppell
91.—Hippocampus kuda Bleeker

Family PEGASIDAE

92.—Pegasus draconis L.

Family FISTULARIIDAE

93.—Fistularia petimba Lac.

Family CENTRISCIDAE

94.—Aeoliscus strigatus Günther
95.—Centriscus scutatus (L.)

Family OPHICEPHALIDAE

96.—Ophicephalus striatus Bloch

Family ANABANTIDAE

97.—Anabas testudineus (Bloch)

Family ATHERINIDAE

98.—Atherina forskali Rüppell.
99.—Atherina temmincki Bleeker

Family MUGILIDAE

100.—Liza melinopterus (Cuv. & Val.)
101.—Liza troscheli (Bleeker)
102.—Mugil Banksi Seale
103.—Mugil dussumieri Cuv. & Val.

Family SPHYRAENIDAE

104.—Sphyraena barracuda (Wallbaum)
105.—Sphyraena forsteri Cuv. & Val.
106.—* Sphyraena jello Cuv. & Val.
107.—Sphyraena langsar Bleeker

Family SCOMBRIDAE

108.—Scomber loo Cuv. & Val.
109.—Scomberomorus commersoni (Lac.)

Family THUNNIDAE

110.—Katsuwonis pelamis (L.)
111.—Euthynnus yaito Kishinouye

Family STROMATEIDAE

112.—Stromateus cinereus Bloch

Family CARANGIDAE

113.—Atule mate (Cuv. & Val.)
114.—Caranx forsteri (Cuv. & Val.)
115.—Caranx ignobilis (Forskål)
116.—Caranx ophthalmotaenia Bleeker
117.—* Caranx praeustus Bennett
118.—Caranx stellatus Eydoux & Soul

119.—* Citula deani Jordan & Seale
120.—* Scomberoides tala (C. & V.) Day
121.—Scomberoides tol (Cuv. & Val.)
122.—Selar macrophthalmus (Rüppell)
123.—Trachinotus bailloni (Lac.)
124.—Trachinotus blochi (Lac.)

Family LEIOGNATHIDAE

125.—Leiognathus equulus (Forskål)
126.—* Leiognathus insidiator (Bloch)
127.—* Leiognathus leuciscus (Günther)
128.—Leiognathus splendens (Cuvier)
129.—* Gazza minuta (Bloch)

Family GERRIDAE

130.—Gerres argyreus (Bl. & Schn.)
131.—Gerres macracanthus Bleeker
132.—Gerres oyena (Forskål)
133.—Gerres punctatus Cuv. & Val.

Family APOGONIDAE

134.—Apogon angustata (Smith & Rad.)
135.—Apogon aroubiensis (Hombron & Jacq.)
136.—Apogon aureus (Lac.)
137.—Apogon bandanensis Bleeker
138.—Apogon cardinalis (Seale)
139.—Apogon chrysotaenia Bleeker
140.—Apogon frenatus Val.
141.—*Apogon gilberti Jordan & Seale
142.—Apogon hartzfeldi Bleeker
143.—Apogon hoeveni Bleeker
144.—Apogon hyalosoma Bleeker
145.—Apogon kallopterus Bleeker
146.—Apogon magnifica (Seale)
147.—Apogon moluccensis Val.
148.—Apogon monochrous Val.
149.—Apogon novem-fasciatus Cuv. & Val.
150.—Apogon orbicularis Cuv & Val.
151.—Apogon robustus Smith & Rad.
152.—Apogonichthys melanopterus Fowler
153.—Apogonichthys perdix Bleeker
154.—Archamia lineolata (Cuv. & Val.)
155.—Cheilodipterus quinquelineatus Cuv. & Val.
156.—* Mionurus mydrus Jordan & Seale
157.—Siphamia versicolor Smith & Radcliffe
158.—Pseudamia polystigma (Bleekerr)

Family AMBASSIDAE

159.—Ambassis kopsi Bleeker
160.—Ambassis miops Günther
161.—Ambassis urotaenia Bleeker
162.—Priopis buruensis (Bleeker)
163.—Priopis gymnocephalus (Lac.)

Family KUHLIIDAE

164.—Kuhlia marginata (Cuv. & Val.)
165.—Kuhlia rupestris (Lac.)

Family SERRANIDAE

166.—Anthias pleurotaenia Bleeker
167.—Centrogenys vaigiensis (Quoy & Gaim.)
168.—Cephalopholis argus Bl. & Schn.
169.—Cephalopholis pachycentron (Cuv. & Val.)
170.—Cromileptes altivelis Cuv. & Val.
171.—Epinephelus merra Bloch
172.—Epinephelus sexfasciatus (Cuv. & Val.)
173.—Epinephelus summana (Forskål)
174.—Epinephelus tauvina Forskål)
175.—Grammistes sexlineatus (Thunberg)
176.—Lates calcarifer (Bloch)
177.—Psammoperca waigiensis (Cuv. & Val.)

Family PLESIOPIDAE

178.—Plesiops melas Bleeker
179.—Plesiops nigricans (Rüppell)

Family PSEUDOCHROMIDAE

180.—Pseudochromis fowleri Herre
181.—Pseudochromis tapeinosomus (Bleeker)
182.—Dampieria melanostigma Fowler
183.—Dampieria melanotaenia (Bleeker)

Family PRIACANTHIDAE

184.—Priacanthus cruentatus Lac.
185.—Priacanthus tayenus Richardson

Family PEMPHERIDAE

186.—Pempheris oulanensis Cuv. & Val.

Family LOBOTIDAE

187.—Lobotes surinamensis Bloch

Family LUTIANIDAE

188.—Lutianus argentimaculatus (Foskål)
189.—Lutianus biguttatus (Cuv. & Val.)
190.—Lutianus decussatus (Cuv. & Val.)
191.—Lutianus fulviflamma (Forskål)
192.—Lutianus johni (Bloch)
193.—Lutianus kasmira (Forskål)
194.—Lutianus lineolatus (Rüppell)
195.—Lutianus marginatus (Cuv. & Val.)
196.—Lutianus nematophorus (Bleeker)
197.—Lutianus rufolineatus (Cuv. & Val.)
198.—Lutianus sebae (Cuv. & Val.)
199.—Lutianus spilurus (Bennett)
200.—Macolor macolor (Lesson)
201.—Etelis carbunculus Cuv. & Val.
202.—Nemipterus isacanthus (Bleeker)
203.—Pristipomoides filamentosus (Cuv. & Val.)

Family POMADASIDAE

204.—Caesio caerulaureus Lac.
205.—Caesio chrysozonus Cuv. & Val.
206.—Caesio cuning (Bloch)
207.—Caesio lunaris Cuv. & Val.
208.—Caesio pisang Bleeker
209.—Mirolabrichthys tuka Herre
210.—Plectorhynchus diagrammus (Lac.)
211.—Plectorhynchus lineatus (L.)
212.—Plectorhynchus pictus (Thunberg)
213.—Scolopsis bilineatus (Bloch)
214.—Scolopsis bleekeri Günther
215.—Scolopsis cancellatus (Cuv. & Val.)
216.—Scolopsis ciliatus (Lac.)
217.—Scolopsis leucotaenia (Bleeker)
218.—Scolopsis margaritifer (Cuv. & Val.)

Family THERAPONIDAE

219.—Therapon cancellatus (Cuv. & Val.)
220.—Therapon jarbua (Forskål)

Family LETHRINIDAE

221.—Lethrinus amboinensis Bleeker
222.—Lethrinus cutambi Seale
223.—Lethrinus harak (Forskål)
224.—Lethrinus kallopterus Bleeker
225.—Lethrinus nematacanthus Bleeker
226.—Lethrinus opercularis Cuv. & Val.
227.—Lethrinus ornatus Cuv. & Val.
228.—Lethrinus richardsoni Günther
229.—Monotaxis grandoculis (Forskål)

Family KYPHOSIDAE

230.—Kyphosus cinerascens (Forskål)
231.—Kyphosus lembus (Cuv. & Val.)

Family INERMIIDAE

232.—Dipterygonotus gruveli Chabanaud
233.—Dipterygonotus leucogrammicus Bleeker

Family MULLIDAE

234.—Upeneoides sulphureus (Cuv. & Val.)
235.—Upeneoides tragula (Rich.)
236.—Upeneoides vittatus (Forskål)
237.—Upeneus barberinus (Lac.)
238.—Upeneus barberinoides Bleeker
239.—Upeneus dispilurus (Playfair)
240.—Upeneus indicus (Shaw)
241.—Upeneus luteus Cuv. & Val.
242.—Upeneus moana Jordan & Seale
243.—Upeneus pleurospilos Bleeker
244.—* Mulloides auriflamma (Forskål)
245.—Mulloides samoensis Günther

Family SILLAGINIDAE

246.—Sillago sihama (Forskål)

Family MALACANTHIDAE

247.—Malacanthus latovittatus (Lac.)

Family CIRRHITIDAE

248.—Cirrhitichthys aprinus Cuv. & Val.
249.—Paracirrhites forsteri (Bl. & Schn.)

Family MONODACTYLIDAE

250.—Monodactylus argenteus (L.)

Family PLATACIDAE

251.—Platax orbicularis (Forskål)

Family TOXOTIDAE

252.—Toxotes jaculator (Pallas)

Family SCATOPHAGIDAE

253.—Scatophagus argus (Boddaert)

Family CHAETODONTIDAE

254.—Chaetodon auriga Forskål
255.—Chaetodon ephippium Cuv. & Val.
256.—Chaetodon fasciatus Forskål
257.—Chaetodon kleini Bloch
258.—Chaetodon melanotus Bl. & Schn.
259.—Chaetodon punctato-fasciatus Cuv. & Val.
260.—Chaetodon selene Bleeker
261.—Chaetodon triangulum Cuv. & Val.
262.—Chaetodon trifasciatus M. Park
263.—Chaetodon vagabundus L.
264.—Coradion chrysozonus (Cuv. & Val.)
265.—Parachaetodon ocellatus (Cuv. & Val.)
266.—Heniochus acuminatus L.
267.—Heniochus varius Cuv. & Val.
268.—Holacanthus bicolor (Bloch)
269.—Holacanthus chapmani Herre
270.—Holacanthus semicirculatus Cuv. & Val.

Family ZANCLIDAE

271.—Zanclus cornutus (L.)

Family ACANTHURIDAE

272.—Acanthurus nigroris Cuv. & Val.
273.—Ctenochaetus strigosus (Bennett)
274.—Zebrasoma flavescens (Bennettt)
275.—Zebrasoma velifer (Bloch)
276.—Naso lituratus (Forster)
277.—Naso marginatus (Cuv. & Val.)
278.—Naso tapeinosoma (Bleeker)
279.—Naso thynnoides (Cuv. & Val.)
280.—Naso unicornis (Forskål)

Family SIGANIDAE

281.—Teuthis concatenata (Cuv. & Val.)
282.—Teuthis fuscescens (Houttuyn)
283.—Teuthis hexagonatus (Bleeker)
284.—Teuthis javus L.
285.—Teuthis oramin (Bl. & Schn.)
286.—Teuthis rostrata (Cuv. & Val.)
287.—Teuthis striolata Günther
288.—Teuthis virgata (Cuv. & Val.)

Family SCORPAENIDAE

289.—Scorpaenodes scabra (Rams. & Ogilb.)
290.—Scorpaenopsis cirrhosus (Thunberg)
291.—Scorpaenopsis novae-guineae Bleeker
292.—* Sebastapistes nivifer Jordan & Seale
293.—Sebastapistes tristis (Klunzinger)
294.—* Vespicula gogorzae Jordan & Seale
295.—Amblyapistus cristi-galli (Günther)
296.—Gymnapistes niger (Cuv. & Val.)
297.—Dendrochirus brachypterus (Cuv. & Val.)
298.—Dendrochirus zebra (Quoy & Gaim.)
299.—Pterois antennata (Bloch)
300.—Pterois volitans (L.)
301.—Inimicus dactylus (Pallas)
302.—Synanceia horrida (L.)
303.—Synanceia verrucosa Bl. & Schn.

Family CARACANTHIDAE

304.—Caracanthus unipinna (Gray)

Family PLATYCEPHALIDAE

305.—Cocius crocodilus (Tilesius)
306.—Platycephalus celebicus Bleeker
307.—Platycephalus indicus (L.)
308.—Platycephalus malayanus Bleeker
309.—Rogadius pristiger (Cuv. & Val.)
310.—Thysanophrys nematophthalmus (Günther)

Family PERISTEDIIDAE

311.—Peristedion nierstraszi M. Weber
312.—Peristedion welchi Herre

Family DACTYLOPTERIDAE

313.—Dactyloptena orientalis (Cuv. & Val.)

Family POMACENTRIDAE

314.—Abudefduf aureus (Cuv. & Val.)
315.—Abudefduf brownriggi (Bennett)
316.—Abudefduf coracinus Seale
317.—Abudefduf curacao (Bloch)
318.—Abudefduf cyaneus (Cuv. & Val.)
319.—Abudefduf glaucus (Cuv. & Val.)
320.—Abudefduf lacrymatus (Quoy & Gaim.)
321.—Abudefduf saxatilis (Linnaeus)
322.—Abudefduf sordidus (Forskål)
323.—Amphiprion bifasciatus (Bloch)
324.—Amphiprion percula (Lac.)
325.—Amphiprion polymnus (L.)
326.—Chromis analis (Cuv. & Val.)
327.—Chromis caeruleus (Cuv. & Val.)
328.—Chromis ternatensis Bleeker
329.—Chromis weberi Fowler & Bean
330.—Chromis xanthochir Bleeker
331.—Chromis xanthurus Bleeker
332.—Dascyllus aruanus (L.)
333.—Dascyllus marginatus (Rüppell)
334.—Dascyllus trimaculatus (Rüppell)
335.—Pomacentrus amboinensis Bleeker
336.—Pomacentrus dorsalis Gill
337.—Pomacentrus fasciatus Cuv. & Val.
338.—Pomacentrus lividus (Forster)
339.—Pomacentrus melanopterus Bleeker
340.—Pomacentrus moluccensis Bleeker
341.—Pomacentrus pavo (Bloch)
342.—Pomacentrus taeniurus Bleeker
343.—Pomacentrus tripunctatus Cuv. & Val.

Family LABRIDAE

344.—Anampses amboinensis Bleeker
345.—Anampses geographicus Cuv. & Val.
346.—Cheilinus bimaculatus Cuv. & Val.
347.—Cheilinus chlorurus (Bloch)
348.—Cheilinus trilobatus Lac.
349.—Cheilio inermis (Forskål)
350.—Choerodon anchorage (Bloch)
351.—* Choerodon schoenleini (Cuv. & Val.)
352.—Cirrhilabrus cyanopleura (Bleeker)
353.—Coris formosa (Bennett)
354.—Duymeria enneacanthus Bleeker
355.—Epibulus insidiator (Pallas)
356.—Halichoeres argus (Bl. & Schn.)
357.—Halichoeres binotopsis Bleeker
358.—Halichoeres hyrtli Bleeker
359.—Halichoeres leparensis Bleeker
360.—Halichoeres margaritaceus (Cuv. & Val.)
361.—Halichoeres miniatus (Cuv. & Val.)
362.—Halichoeres nebulosus (Cuv. & Val.)
363.—Halichoeres reichei Bleeker
364.—Halichoeres scapularis (Bennett)
365.—Lepidaplois bilunulatus (Lac.)
366.—Leptojulis cyanopleura Bleeker
367.—Macropharyngodon geoffroy (Quoy & G.)
368.—Macropharyngodon negrosensis Herre
369.—Novaculichthys kallosoma Bleeker
370.—Novaculichthys macrolepidotus (Bloch)
371.—Pseudocheilinus hexataenia Bleeker
372.—*Stethojulis bandanensis Bleeker
373.—Stethojulis interrupta (Bleeker)
374.—Stethojulis kallosoma Bleeker
375.—Stethojulis phekadopleura (Bleeker)
376.—Stethojulis renardi (Bleeker)
377.—Stethojulis trilineata (Bl. & Schn.)
378.—Thalassoma hardwicke (Bennett)
379.—Thalassoma lunare (L.)
380.—Thalassoma schwanefeldi (Bleeker)
381.—Xyrichthys tetrazona Bleeker

Family SCARIDAE

382.—Leptoscarus moluccensis (Bleeker)
383.—*Leptoscarus vaigiensis (Quoy & Gaim.)
384.—Leptoscarus viridescens (Bleeker)
385.—Scarichthys auritus (Cuv. & Val.)
386.—Scarichthys coeruleo-punctatus (Rüppell)
387.—Scarus bicolor Rüppell
388.—Scarus cyanognathus (Bleeker)
389.—Scarus erythrodon Cuv. & Val.
390.—* Scarus muricatus Cuv. & Val.

Family ELEOTRIDAE

391.—Belobranchus belobrancha (Cuv. & Val.)
392.—Butis butis (Buch. Ham.)
393.—Bunaka pinguis Herre
394.—Eleotris fusca (Bl. & Schn.)
395.—Eleotris melanosoma Bleeker
396.—Eviota sealei Herre
397.—* Hypseleotris cyprinoides (Cuv. & Val.)
Det. doubtful.
398.—Ophiocara aporos Bleeker
399.—Ophiocara porocephala (Cuv. & Val.)
400.—Valenciennea longipinnis (Bennett)
401.—Valenciennea muralis (Quoy & Gaim.)
402.—Valenciennea sexguttata (Cuv. & Val.)
403.—Valenciennea strigata (Brouss.)
404.—* Valenciennea violifera Jord & Seale

Family GOBIIDAE

405.—* Amblygobius bynoensis (Richardson)
406.—Amblygobius phalaena (Cuv. & Val.
407.—Amblygobius sphynx (Cuv. & Val.)
408.—Bathygobius fuscus (Rüppell)
409.—Bathygobius mearnsi Everm. & Seale
410.—Chonophorus melanocephalus (Bleeker)
411.—Chonophorus ocellaris (Brouss.)
412.—Creisson validus Jordan & Seale
413.—Cryptocentrus leucostictus (Günther)
414.—* Ctenogobius palacky (Jordan & Seale)
415.—* Ctenogobius caninus (Cuv. & Val.)
416.—Ctenogobius baliuroides (Bleeker)
417.—Ctenogobius nuchi-punctatus Herre
418.—Ctenogobius scapulo-punctatus de Beaufort
419.—Glossogobius biocellatus (Cuv. & Val.)
420.—Glossogobius celebius (Cuv. & Val.)
421.—Glossogobius giurus (Buch. Ham.)
422.—*Gnatholepis calliurus Jordan & Seale
423.—Gnatholepis davaoensis Seale
424.—*Gnatholepis deltoides (Seale)
425.—Gnatholepis gemmeus Herre
426.—Gobiodon quinquestrigatus (Cuv. & Val.)
427.—Gobiosoma insignum Herre
428.—Gobius ornatus Rüppell
429.—Mcgregorella intonsa Herre
430.—Mcgregorella moroana Seale
431.—Oxyurichthys ophthalmonema Bleeker
432.—*Oxyurichthys papuensis (Cuv. & Val.)
433.—Paragobiodon echinocephalus (Rüppell)
434.—Paragobiodon xanthosomus (Bleeker)

435.—Sicyopterus lacrymosus Herre
436.—Sicyopterus panayensis Herre
437.—Stiphodon pulchellum (Herre)
438.—Vaimosa piapensis Herre
439.—Zonogobius semidoliatus (Cuv. & Val.)

Family PERIOPHTHALMIDAE

440.—Periophthalmus barbarus (L.)
441.—Periophthalmodon schlosseri (Pallas)
442.—*Scartelaos viridis (Buch. Ham.)

Family GOBIOIDIDAE

443.—Brachyamblyopus olivaceus Herre
444.—Taenioides caeculus (Bl. & Schn.)

Family ECHENEIDAE

445.—Echeneis naucrates L.
446.—Echeneis remora L.

Family CALLIONYMIDAE

447.—Callionymus calauropomus Richards
448.—Synchiropus ocellatus (Pallas)

Family PARAPERCIDAE

449.—Parapercis cylindrica (Bloch)
450.—Parapercis schauinslandii Steindachner

Family CLINIDAE

451.—Tripterygium callionymi M. Weber
452.—Tripterygium trigloides Bleeker

Family BLENNIIDAE

453.—Salarias alboguttatus Kner
454.—Salarias caudolineatus Günther
455.—Salarias deani Jordan & Seale
456.—Salarias edentulus (Bl. & Schn.)
457.—Salarias fasciatus (Bloch)
458.—Salarias lineatus Cuv. & Val.
459.—Salarias marmoratus (Bennett)
460.—Salarias nitidus Günther
461.—Salarias oorti Bleeker
462.—Salarias periophthalmus Cuv. & Val.
463.—Salarias periophthalmus visayanus Herre
464.—* Salarias undecimalis Jordan & Seale
465.—Salarias zamboangae Everm. & Seale
466.—Petroscirtes eretes Jordan & Seale
467.—Petroscirtes loxias Jordan & Seale
468.—Petroscirtes polypodon Bleeker
469.—Petroscirtes rhinorhynchus Bleeker
470.—Cirripectes variolosus (Cuv. & Val.)

Family XIPHASIIDAE

471.—Xiphasia setifer Swainson

Family CONGROGADIDAE

472.—Congrogadus hierichthys Jordan & Richson
473.—Congrogadus subducens (Richards.)

Family BROTULIDAE

474.—Dinematichthys iluocoeteoides Bleeker

Family TRIACANTHIDAE

475.—Triacanthus strigilifer Cantor

Family BALISTIDAE

476.—Balistapus undulatus (M. Park)
477.—Balistapus verrucosus (L.)

Family MONOCANTHIDAE

478.—Monacanthus chinensis (Bloch)
479.—Stephanolepis cryptodon (Bleeker)
480.—Stephanolepis melanocephalus (Bleeker)
481.—Stephanolepis tomentosus (L.)
482.—Cantherines macrurus (Bleeker)
483.—Cantherines pardalis (Rüppell)
484.—Osbeckia scripta (Osbeck)
485.—Pseudaluteres nasicornis (Schlegel)

Family OSTRACIIDAE

486.—Ostracion cornutus L.
487.—Ostracion tuberculatus L.

Family TRIODONTIDAE

488.—Triodon bursarius (Reinwardt)

Family TETRAODONTIDAE

489.—Chelonodon patoca (Buch. Ham.)
490.—Spheroides lunaris (Bl. & Schn.)
491.—Spheroides ocellatus (Osbeck)
492.—Tetraodon aerostaticus (Jenyns)
493.—Tetraodon hispidus L.
494.—Tetraodon immaculatus (Bl. & Schn.)
495.—Tetraodon meleagris (Lac.)
496.—Tetraodon nigropunctatus Bl. & Schn.
497.—Tetraodon reticularis Bl. & Schn.

Family CANTHIGASTERIDAE

498.—Canthigaster bennetti (Bleeker)
499.—Canthigaster compressus (Procé)
500.—Canthigaster janthinopterus (Bleeker)
501.—Canthigaster papua (Bleeker)
502.—Canthigaster valentini (Bleeker)

Family BOTHIDAE

503.—Pseudorhombus neglectus Bleeker
504.—Platophrys pantherinus Rüppell
505.—Arnoglossus annulatus M. Weber
506.—Arnoglossus intermedius (Bleeker)
507.—Arnoglossus mogki (Bleeker)
508.—Arnoglossus poecilurus (Bleeker)

Family SOLEIDAE

509.—Paraplagusia bilineata (Bloch)
510.—Paraplagusia blochi (Bleeker)
511.—Pardachirus pavoninus (Lac.)
512.—Solea heterorhina Bleeker
513.—Synaptura aspilus Bleeker

Family ANTENNARIIDAE

514.—Antennarius bigibbus (Lac.)
515.—Antennarius commersoni (Lac.)
516.—Antennarius nummifer Cuvier
517.—Histrio histrio (L.)

A Check List of Fishes Known from Madang, New Guinea

By ALBERT W. HERRE
Stanford University, California

Family CLUPEIDAE
1.—Stolephorus delicatulus (Bennett)

Family MORINGUIDAE
2.—Moringua microchir Bleeker

Family MURAENIDAE
3.—Echidna nebulosa (Ahl.)

Family SYNODONTIDAE
4.—Synodus japonicus (Houttuyn)

Family HEMIRAMPHIDAE
5.—Hemiramphus balinensis Bleeker
6.—Hemiramphus georgii Cuv. & Val.

Family EXOCOETIDAE
7.—Parexocoetus brachypterus (Richardson)
8.—Parexocoetus rostratus (Günther)
9.—Cypselurus oligolepis (Bleeker)

Family BREGMACEROTIDAE
10.—Bregmaceros mcclellandi Thompson

Family HOLOCENTRIDAE
11.—Holocentrus cornutus Bleeker; in Rhynichthys stage

Family SYNGNATHIDAE
12.—Syngnathus djarong Bleeker
13.—Syngnathus uncinatus Weber

Family FISTULARIIDAE
14.—Fistularia villosa Klunzinger

Family ATHERINIDAE
15.—Atherina endrachtensis Quoy & Gaim.
16.—Atherina forskali Rüppell
17.—Atherina temmincki Bleeker

Family MUGILIDAE
18.—Liza oligolepis (Bleeker)

Family SPHYRAENIDAE
19.—Syhpraena jello (Cuv. & Val.)

Family CARANGIDAE
20.—Scomberoides toloo-parah (Rüppell)

Family APOGONIDAE
21.—Apogon frenatus Val.

Family LUTIANIDAE
22.—Lutianus lioglossus Bleeker

Family THERAPONIDAE
23.—Therapon puta Cuv. & Val.

Family SCORPAENIDAE
24.—Pterois volitans L.

Family ECHENEIDAE
25.—Phtheirichthys lineatus (Menzies)

Family GOBIIDAE
26.—Periophthalmus barbarus (L.)

Family BLENNIIDAE
27.—Petroscirtes rhinorhynchus Bleeker

Family BALISTIDAE
28.—Balistapus rectangulus (Bl. & Schn.)

Family MONACANTHIDAE
29.—Stephanolepis tomentosus (L.)

Family DIODONTIDAE
30.—Diodon bleekeri Günther
31.—Diodon holacanthus L.

The above were taken while our vessel stopt for a few hours at Madang May 6-7, 1929.

Arboretums and Botanical Gardens in the United States

By ROBERT PYLE
Chairman, Committee on Arboretums and Botanical Gardens,
American Association of Nurserymen

Arizona

1. Superior: Boyce Thompson Southwestern Arboretum.
2. Tucson: Desert Botanical Laboratory of the Carnegie Institution of Washington.

California

3. Berkeley: University of California at Strawberry Canyon, University of California Botanic Garden.
4. Beverly Hills: Botanical collection of Stephen Vavra. (Private.)
5. Carmel: Acclimatization Garden of the Carnegie Institution of Washington.
6. Los Angeles: Botanical collection of Mrs. Helen Hill Wernigk. (Private.)
7. Los Angeles: California Botanic Garden.
8. Palo Alto: Pacific Botanical Garden at Leland Stanford University.
9. San Diego: Botanical collection of Miss Kate Sessions. (Private.)
10. Santa Ana: Botanic Garden at Rancho.
11. Santa Barbara: Blakesly Botanic Garden—plants native to the Pacific slope, grouped in communities, including all types of material from sequoias to sagebrush, annuals, perennials, shrubs and water lilies.
12. Santa Monica: Botanical collection of Hugh Evans. (Private.)
13. Sierra Madre: Botanical Garden on estate of Frank J. Hart. (Private.)
14. Sierra Madre, Los Angeles County: Sierra Madre Arboretum.
15. Southern: Bard Botanic Garden. (Private.)

Colorado

16. Colorado Springs: Myron Stratton Estate. (Private.)

Connecticut

17. Fairfield: Private Arboretum of George P. Brett.
18. New Haven: Yale University—Marsh Botanic Garden.
19. New London: Connecticut Arboretum—Connecticut College, George S. Avery, Jr., Professor of Botany.

District of Columbia

20. Washington: NATIONAL ARBORETUM.
21. Washington: National Botanic Garden.

Florida

22. Miami: Tropic Everglades National Park.

Hawaiian Islands

23. Hilo, T. H.: Pan-Pacific Acclimatization Garden. In prospect, an area from tropic sea level to Arctic summits on the slopes of Mt. Mauna Kea, 13,825 feet high.

Illinois

24. Joliet: Pilcher Arboretum.
25. Lisle, Du Page County: Morton Arboretum.
26. Olney, Richard County: Bird Haven.
27. Urbana: University of Illinois Arboretum (in prospect).

Indiana

28. Indianapolis: Butler University Campus.

29. Muncie: Ball Arboretum at Teachers College.

Kentucky

30. Lexington: University of Kentucky.
31. Lexington: Transylvania University Botanical Garden.

Maryland

32. Baltimore: Johns Hopkins University.
33. College Park: University of Maryland.

Massachusetts

34. Cambridge: Harvard University Botanical Garden, 125 years old.
35. Jamaica Plain: ARNOLD ARBORETUM.
36. Lexington: Lexington Gardens, Inc.
37. Northampton: Smith College.
38. South Hadley: Mt. Holyoke College.
39. Topsfield: Proctor Arboretum. (Private.)
40. Wellesley (12 miles west of Boston): Hunnewell Arboretum.

Michigan

41. Ann Arbor: University of Michigan —Nichols Arboretum.
42. Battle Creek: Park Department—Leila Arboretum.
43. Charlevoix: Hemingway Evergreen Arboretum.
44. Lansing: Michigan Agricultural College—Beal Botanical Garden.

Minnesota

45. Lake City: Underwood Arboretum.
46. Minneapolis: University of Minnesota.
47. Northfield: Carleton College Arboretum. H. E. Stork, Chairman, Botany Department.

Missouri

48. St. Louis: MISSOURI BOTANICAL GARDENS (Shaw Gardens).

New Jersey

49. Washington Crossing: George Washington Memorial Arboretum.

New York

50. The Bronx, New York City: New York Botanical Garden.
51. Brooklyn: Brooklyn Botanic Garden.
52. Brookville, Glenhead, L. I.: Arboretum of Theodore A. Havermeyer.
53. Buffalo—South Park. (Practically abandoned.)
54. Farmingdale, L. I.: Arboretum of State Institute of Applied Agriculture. H. B. Knapp, Director.
55. Fishkill Landing: Wodenethe (1841) Estate of Henry W. Sargent.
56. Garden City, Long Island: Country Life Press Garden includes an especially fine collection of evergreens, demonstrations of hedges, etc. Garden clubs and classes in horticulture are especially conducted by Leonard Barron, Director.
57. Glen Cove: Dosoris (1874)—Private Arboretum of Charles A. Dana.
58. Ithaca: Cornell University Campus.
59. Locust Valley, L. I.: Private Arboretum of Anton G. Hodenpyl.
60. New York City: Elgin Botanic Garden.
61. Oakdale: Arboretum of Mrs. W. Bayard Cutting.
62. Poughkeepsie: Vassar College.
63. Rochester: Highland Park.
64. Roslyn, L. I.: Private Arboretum of Childs Frick.
65. Yonkers: Boyce Thompson Institute of Plant Research.

North Carolina

66. Chapel Hill: Coker Arboretum—University of North Carolina.

North Dakota

67. International Peace Garden.

Ohio

68. Cincinnati: Mount Airy Forest Arboretum.
69. Cleveland: The Fine Arts Garden (in Wade Park)—(The Cleveland Garden Club). (In prospect.)
70. Cleveland: Holden Arboretum—Kirtland Hills District.
71. Cleveland: Rocky Run Arboretum, G. G. Marshall, 1211 W. 9th St.
72. Columbus: Ohio State University (?).
73. Kent: John Davey Memorial Arboretum—Davey Tree Expert Co.
74. Newark: Gift of Mr. and Mrs. Beman G. Dawes.
75. Wooster: Ohio Agricultural Experiment Station Arboretum.
76. Yellow Springs: Bryan Park.
77. Yellow Springs: Glen Helen, Antioch College (20 acres).

Ontario, Canada

78. Ottawa: Central Experimental Farm Arboretum.

Oregon

79. Corvallis: Peavey Arboretum of the Forest School at Oregon State Agricultural College.
80. Portland: Portland Civic Arboretum in Hoyt Park.

Pennsylvania

81. Bethlehem: Arboretum of Lehigh University.
82. Chestnut Hill: Morris Arboretum. (Private.)
83. Germantown: Hemlock Arboretum at "Far Country," Kitchen's Lane. Charles F. Jenkins.
84. Kennett Square: Pierce Arboretum —Now "Longwood" Pierre S. Du Pont Estate.
85. Lima, Delaware County: Arboretum on the Painter Estate.
86. Marshalltown, near West Chester: Tree collection of Humphrey Marshall.
87. Merion: Barnes Foundation Arboretum.
88. Mont Alto: Pennsylvania Forest Research Institute, the State Forest School, and the Mont Alto State Forest Tree Nursery.
89. Philadelphia: Bartram's Garden.
90. Philadelphia: University of Pennsylvania.
91. Radnor: Garden and Arboretum of John Evans (1828).
92. Swarthmore, Dela. Co.: Swarthmore College Arboretum.
93. West Chester: Josiah Hoopes Pinetum (1870).
94. Westtown, Chester County: Westtown Friends School Arboretum.

South Carolina

95. Charleston: Cypress Gardens, U. S. Route 17, 24 miles north of Charleston. Admission charged.

Tennessee

96. Knoxville: A. F. Sanford Arboretum (Non-Commercial).
97. Memphis: Memphis Park Board.
98. Sewanee: University of the South (in prospect).
99. Madison: Nashville Agricultural Normal Institute.

Texas

100. Austin: Texas Botanical Gardens of University of Texas.
101. College Station, Helge-Ness Arboretum of Texas—Agricultural Experiment Station.
102. Houston: Herman Park Botanical Garden.

Virginia

103. Richmond: Maymont Park. (Dooley Estate.)

Washington

104. Near Carson: Wind River Arboretum—Pacific Northwest Forest Experiment Station.

105. Seattle: Washington State Arboretum and Botanical Garden. (Being organized.)

West Virginia

106. Wheeling: Waddington Farm Arboretum—Oglebay Park.

Wisconsin

107. Madison: In prospect. Plans being made for a state Arboretum on University of Wisconsin property. Mr. Rahmlow, Secretary of Wisconsin Horticultural Society.

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West Indies

Dominica: Botanic Garden.
Trinidad: Botanic Garden.

The International Peace Garden: "Halfway between the Atlantic and Pacific, close to the geographical center of the continent, the Peace Garden will be made in the Turtle Mountain district of Manitoba and North Dakota. Manitoba's contribution to the garden is 1500 acres of land in the provincial forest reserve. The block is bounded on the south by the international line and on the east by the Canal-to-Canada highway. North Dakota is giving a block of land the same size and shape, joining Manitoba's gift on the south.

On July 14, 1932, the International Peace Garden was dedicated. On the stone set to mark the place on the international boundary, which is to be no longer inside the garden, the words are cut, 'To God in His glory, we two nations dedicate this garden and pledge ourselves that, so long as men shall live, we will not take up arms against each other.'

It has been announced that the sum of $5,000,000 would be required to build and endow the garden. It is proposed to make it a people's garden and, above all, a children's garden with the thought that, if possible, every school child in the United States and Canada shall contribute five cents, with which amount more than half the sum required to establish and maintain the Peace Garden will be assured. Heading the United States section of the Committee it was announced that Professor P. L. Elwood, Jr., of Iowa State College, Ames, Iowa, would be in charge."

The Committee on Arboretums and Botanical Gardens has made the following interesting deductions from its collected information:

1. That the number of first-class arboretums in America is very, very few.
2. That enough arboretums in America have been begun to supply every state in the Union twice over.
3. That a large proportion of all those begun are little more than a memory today, and many still in existence cannot be expected to last long beyond the list of their founders.

An arboretum may scarcely reach its full value until the second generation. How important, therefore, in the founding to plan, if not to provide, that it shall be cared for by each generation it serves. Some kind of a continuing trust amply funded is the ideal. Beyond that, let the location and association be with a sympathetic institution likely to be maintained by posterity, and the work of the founders should continue. The mortality of arboretums is high because the majority have been privately owned and little or no endowment or provision has been made for maintenance beyond the first generation, whereas some trees scarcely come to their full maturity in the lifetime of the man who plants them. Man is on the move and his scenes shift rapidly, while the arboretum must be fixed in its abode.